

Special Call for Participation
To
All Undergraduate and Graduate Level Students in Space Information Technology

**Second International Conference On
Space Mission Challenges For Information Technology
(SMC-IT 2006)**

Student Mini-Workshop Session

Location: Pasadena Conference Center
Pasadena, California, USA

Date: July 17 - 21, 2006

General Information: <http://smc-it.jpl.nasa.gov>

Email Inquiries: smc-it@jpl.nasa.gov

Overview:

The successful inaugural meeting of SMC-IT was held in July 2003, in Pasadena with over 330 attendees drawn from space agencies, national labs, defense, academia, and aerospace and related industry. For the first time, SMC-IT 2006 will convene a special student mini-workshop session that will provide an excellent opportunity for students to present new ideas and research projects on hardware and software aspects of IT applications in space missions to system designers, engineers, scientists, practitioners, and space explorers. This is open to all undergraduate as well as graduate level students whose work may range from basic research to very applied projects and even actual space experiments.

SMC-IT 2006 will continue its focus on current IT practice and challenges as well as emerging information technologies with applicability for future space missions. IT in all aspects of the space mission will be explored, including flight systems, ground systems, science data processing, engineering and development tools, operations, and telecommunications. The entire IT lifecycle of the mission development will also be covered, such as conceptual design, engineering tools development, integration and test, operations, science analysis, quality control, and outreach.

Venue:

The conference will be held at the Pasadena Conference Center, which is conveniently located near the historic "Old Town" shopping area of Pasadena, California, home of the Tournament of Roses Parade, Rose Bowl, Caltech, and the Jet Propulsion Laboratory. Hotel, travel and other logistical information is available at the conference web site.

A partial list of example technology areas include:

- Reliable software and innovative fault tolerance approaches, including software-based methods
- Autonomy - rovers to operations

- Autonomy - system validation
- Automated planners and schedulers
- Human robotic interfaces
- Engineering design and modeling tools
- IT tools for risk management
- Innovative IT methods for rapid technology mission infusion
- Real-time information systems
- Embedded IT systems (for control or onboard processing)
- Machine vision and advanced image processing methods
- Real-time software and IT hardware in the loop
- Novel applications - spacecraft, ground systems, telecom
- IT for low cost operations
- OOD methods that enhances reuse
- Middleware services
- Knowledge capture, management, and ontologies
- On-board vehicle health diagnosis and repair
- Reducing software development costs and risk through CMMI
- Science and user software applications
- IT for the Interplanetary Network and next generation space-based networking
- New software architectures, languages, compilers, tools for space missions
- Spaceborne computing architectures
- Advanced high performance computing systems and applications
- Revolutionary new information technologies

Extended Abstract Submission:

The submission of a two page extended abstract is required by April 1, 2006. Acceptance notifications will be emailed by April 15, 2006. At least one student must register to give the presentation. Powerpoint presentations for a 20-min talk must be submitted to the conference (email to: smc-it@jpl.nasa.gov) by COB July 3, 2006. Travel assistance is expected to be available. Please email smc-it@jpl.nasa.gov for more information. Top presenters will receive special recognition and also be invited to write up to a 5 page paper for inclusion in special conference proceedings.

Abstracts may be submitted as:

- Plain text file (ASCII)
- PDF file
- RTF file
- MS WORD file (template available at <http://smc-it.jpl.nasa.gov/absauthorInfo.cfm>)

If you don't use the template please include:

- Title
- Author
- Affiliation
- Address
- Email
- Phone

File extension must be included.

Before submitting your abstract, please rename your electronic file so that it includes the following elements in this order:

- SMCIT06
- Principal Author's First Initial and Last Name (use mixed case)
- Abs
- Filetype extension (.txt, .pdf, .rtf or .doc)

Thus, an abstract by J.Doe would be called:

- SMCIT06JDoeAbs.txt
- SMCIT06JDoeAbs.pdf
- SMCIT06JDoeAbs.rtf
- SMCIT06JDoeAbs.doc

If you are submitting more than one file under the

same authors name, number the files 1, 2, etc. and place this number in the beginning of the file name (for example, 1SMCIT06JDoeAbs.pdf, 2SMCIT06JDoeAbs.pdf etc)

If you are revising your abstract, please include a version number (example: SMCIT06JDoeAbs v2.pdf)

Preliminary Schedule:

Advanced Registration Opens	March 1, 2006
Student Abstract Deadline	April 1, 2006
Acceptance Notification	April 15, 2006
Regular Registration Opens	May 1, 2006
Presentations Due	July 3, 2006
Conference	July 17-21, 2006

Further Information:

For more detailed information on specific IT topic areas, papers, schedule, and general logistics information please refer to the conference website:

<http://smc-it.jpl.nasa.gov>

To join the SMC-IT informational mailing list, please send a blank email message to:

join-smcit2006@list.jpl.nasa.gov

To unsubscribe to the list, please send a blank email message to:

leave-smcit2006@list.jpl.nasa.gov

We look forward to seeing you in Pasadena in July of 2006!

Conference Chairs:

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